OHIO DEPARTMENT OF TRANSPORTATION
OFFICE OF MATERIALS MANAGEMENT
RESEARCH IMPLEMENTATION PLAN

Title: Pavement Performance Testing

State Job Number: 14702
PID Number:
Research Agency: Ohio University
Researcher(s): Shad Sargand, Sang Soo-Kim
Technical Liaison(s): David Powers, Aric Morse, Brad Young, Roger Green
Research Manager: Karen Pannell
Sponsor(s): William Lindenbaum, Lloyd Welker, Howard Wood, David Humphrey,
Study Start Date: 5/18/1998
Study Completion Date: 3/8/2002
Study Duration: 46 Months
Study Cost: $224,916.00
Study Funding Type: 80 Federal / 20 State, ODOT SPR (2)

STATEMENT OF NEED: Validate effect of materials variables in the Superpave mix design system as affects rutting and fatigue performance.

RESEARCH OBJECTIVES:
1. Determine the effect of aggregate characteristics and gradation and polymer modifier on pavement rutting and fatigue performance.

2. Obtain data for the development and verification of the mechanistic empirical design approach for flexible pavement.

3. Determine the correlation of predicted performance of the pavement system by laboratory methods with accelerated load test.

RESEARCH TASKS: Seven lab tests (APA, triaxial, uniaxial, flexural fatigue, IDT, resilient modulus, moisture susceptibility) used to evaluate rutting, fatigue and moisture damage. Two aggregates, 3 gradations and 3 binders used. Three mixed chosen for the APLF facility at Lancaster for test.

RESEARCH DELIVERABLES: All test data, summary and conclusions pointing out significant trends and recommendations regarding Superpave mixtures and materials.

RESEARCH RECOMMENDATIONS: Continue to use a modified Superpave design criteria with no restricted zone, with modified binders, and with crushed materials. The APLF facility validates quicker lab methods such as the APA and IDT.

PROJECT PANEL COMMENTS: No additional comments.

IMPLEMENTATION STEPS & TIME FRAME: This study was to validate specifications currently in use for Superpave. No implementation exists. Use of the APA as surrogate rut test was also validated and is in use now.

EXPECTED BENEFITS: Provide confidence that current ODOT Superpave specifications are appropriate.

EXPECTED RISKS, OBSTACLES, & STRATEGIES TO OVERCOME THEM: No expected risks or obstacles.

OTHER ODOT OFFICES AFFECTED BY THE CHANGE: No change.

PROGRESS REPORTING & TIME FRAME: None

TECHNOLOGY TRANSFER METHODS TO BE USED: continue with current specification.

IMPLEMENTATION COST & SOURCE OF FUNDING: None

Approved By: (attached additional sheets if necessary)

Office Administrator(s):

Signature: Lloyd Welker Office: OMM Date: 8/9/2005

Signature: David Humphrey Office: OPE Date: 9/12/2005

Division Deputy Director(s):

Signature: William Lindenbaum Division: Const. Mgmt. Date: 8/11/2005

Signature: Howard Wood Division: Planning Date: 10/11/2005